

Ground water is the source of drinking water for 47 percent of the 5.26 million residents of Tennessee (U.S. Bureau of the Census, 1996). In 1995, public-supply withdrawal of ground water from wells and springs in eight of the principal aquifers in Tennessee (fig. 1) averaged about 279 million gallons per day (Mgal/d) and accounted for 36 percent of the total public-supply withdrawals (779 Mgal/d) (fig. 2). This rate represents an increase of about 74 percent in the use of ground water for public supply since 1970 when public-supply ground-water withdrawals averaged about 160 Mgal/d (Murray and Reeves, 1972) (fig. 3), and an increase of about 40 percent since 1980 when ground-water withdrawals averaged about 200 Mgal/d (Solley and others, 1983).

Most of the ground water used for public supply in 1995 was withdrawn from the Tertiary sand aquifer in West Tennessee (fig. 1). Ground-water withdrawals from this principal aquifer averaged about 211 Mgal/d and accounted for 76 percent of the ground water used for public supply in the State. The county with the largest rate of withdrawal for public supply in 1995 was Shelby County, which includes the city of Memphis. Withdrawals in Shelby County were 163 Mgal/d, or 38 percent of the ground water used for public supply in the State (fig. 4).

Locations of principal public-supply systems (withdrawals equal to or greater than 0.02 Mgal/d) that withdrew ground water in Tennessee are shown in figure 5, and the systems are listed alphabetically by county in table 1. Ground-water withdrawals, surface-water withdrawals, and water purchased from non-system sources, and the principal aquifer supplying each system are included. The table does not include data for the 47 small systems which withdrew less than 0.02 Mgal/d.

Thirty-seven of the 202 principal public-supply systems listed in table 1 withdrew 1 Mgal/d or more. Although they represent only 15 percent of the public-supply systems in the State, they accounted for 84 percent of the ground water withdrawn for public supply (fig. 5) (table 2). One public-supply system (Memphis Light, Gas and Water) withdrew about 148 Mgal/d which represents about 53 percent of the total ground water withdrawn for public supply in Tennessee.

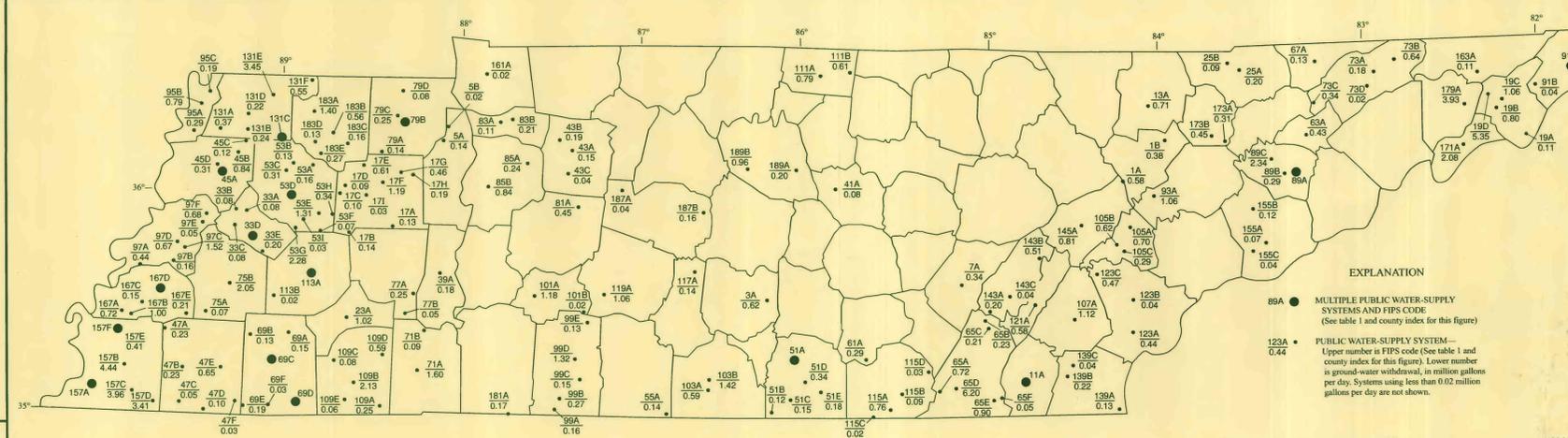


Figure 5. Location of the principal public-supply systems in Tennessee that withdrew ground water, 1995.

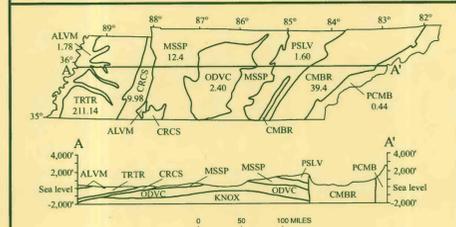


Table 1. Principal public-supply systems withdrawing ground water in Tennessee, 1995

County and site ID	County	PWSID	Public supply	Source	Principal aquifer	Ground water (Mgal/d)	Surface water (Mgal/d)	Purchased water (Mgal/d)	County and site ID	County	PWSID	Public supply	Source	Principal aquifer	Ground water (Mgal/d)	Surface water (Mgal/d)	Purchased water (Mgal/d)
1A Anderson 523	Anderson	523	Oliver Springs Water Board	Bacon Spring, Anderson Co. UB	CMBR	0.58	0.58	0.58	65E Hamilton 613	Hamilton	613	Savannah Valley UD	wells	CMBR	0.90	0.00	0.00
1B Anderson 513	Anderson	513	Norris Water Commission	Clear Creek Spring	CMBR	38	0.00	0.00	65F Hamilton 906	Hamilton	906	Grindstone Estate Water System	well	CMBR	0.05	0.00	0.00
3A Bedford 730	Bedford	730	Wartrace Water System	Wartrace Spring	ODVC	62	0.00	0.00	67A Hancock 640	Hancock	640	Stoodley Utility District	well	TRTR	0.15	0.00	0.00
5A Benton 51	Benton	51	Big Sandy Water Department	Kennedy Lake Heights WS	ALVM	0.02	0.00	0.00	69A Hardeman 704	Hardeman	704	Toccoo Water System	3 wells	TRTR	0.15	0.00	0.00
5B Benton 55	Benton	55	Kennedy Lake Heights WS	3 wells	ALVM	0.02	0.00	0.00	69B Hardeman 748	Hardeman	748	Whiteville Water Department	3 wells	TRTR	0.13	0.00	0.00
7A Blount 551	Blount	551	Pikeville Water System	4 wells	MSSP	3.47	0.00	0.00	69C Hardeman 63	Hardeman	63	Bolivar Water System	well	CRCS	1.17	0.00	0.00
11A Bradley 111	Bradley	111	Cleveland Utilities	Waterville Spring, Cleveland Utilities	CMBR	1.47	5.93	0.00	69C Hardeman 64	Hardeman	64	Western Mental Health Institute	wells	TRTR	0.13	0.00	0.00
11A Bradley 525	Bradley	525	Ocoee Utility District	Carpenter Spring, Cleveland Utilities	CMBR	1.47	0.00	0.00	69D Hardeman 690	Hardeman	690	Madison Water Department	well	CRCS	0.04	0.00	0.00
13A Campbell 322	Campbell	322	Caryville-Jacksboro UD	Cave Spring, Cave Lake, North Anderson County UD	PSLV	7.1	20.0	0.00	69E Hardeman 267	Hardeman	267	Rivers Utilities of Tennessee	2 wells	TRTR	0.19	0.00	0.00
17A Carroll 115	Carroll	115	Clarkburg Utility District	2 wells	CRCS	13	0.00	0.00	69F Hardeman 451	Hardeman	451	Grand Valley Lakes WS	well	TRTR	0.19	0.00	0.00
17B Carroll 98	Carroll	98	Cedar Grove Utility District	2 wells	TRTR	1.4	0.00	0.00	71A Hardin 611	Hardin	611	Savannah Utility District	2 wells	ALVM	1.60	0.00	0.00
17C Carroll 35	Carroll	35	Arnold Water System	1 well	TRTR	10	0.00	0.00	71B Hardin 606	Hardin	606	Saltillo Utility District	3 wells	CRCS	0.09	0.00	0.04
17D Carroll 710	Carroll	710	Trezevant Water System	2 wells	TRTR	0.09	0.00	0.00	73A Hawkins 682	Hawkins	682	Surgentville Utility District	spring, First UD of Hawkins County #2	CMBR	0.64	0.00	0.00
17E Carroll 316	Carroll	316	Huntington WD	2 wells	TRTR	1.19	0.00	0.00	73B Hawkins 855	Hawkins	855	First UD of Hawkins County #2	Loc Spring, Hamilton Spring	CMBR	0.64	0.00	0.00
17F Carroll 421	Carroll	421	McKenzie Water Department	1 well	TRTR	1.19	0.00	0.00	73C Hawkins 472	Hawkins	472	Mooreburg Utility District	spring	CMBR	0.34	0.00	0.00
17G Carroll 81	Carroll	81	Buckner Water System	well	CRCS	0.46	0.00	0.00	73D Hawkins 92	Hawkins	92	Camelet Utility District	2 wells	TRTR	0.07	0.00	0.00
17H Carroll 310	Carroll	310	Hallow Rock WD	3 wells	TRTR	1.19	0.00	0.00	75A Haywood 672	Haywood	672	Statton Water System	2 wells	TRTR	0.07	0.00	0.00
17I Carroll 422	Carroll	422	McIntoshville Water System	1 well	CRCS	0.21	0.00	0.00	75B Haywood 80	Haywood	80	Brownsville Water Department	well	TRTR	2.05	0.00	0.00
19A Carter 584	Carter	584	Roan Mountain UD	3 wells	PCMB	1.11	0.00	0.00	77A Henderson 614	Henderson	614	Scotts Hill Water System	5 wells	CRCS	2.5	0.00	0.00
19B Carter 282	Carter	282	Hampton Utility District	1 well	CMBR	0.80	0.00	0.00	77B Henderson 609	Henderson	609	Saunders Water System	wells	CRCS	0.05	0.00	0.00
19C Carter 94	Carter	94	First UD of Carter Co.	Campbell Spring, Hampton Spring, Milligan Springs, Valley Forge Springs, Big Spring	CMBR	1.06	0.00	0.00	79A Henry 296	Henry	296	Henry Water System	2 wells	CRCS	0.14	0.00	0.00
19D Carter 221	Carter	221	Elizabethon Water Department	1 well	CMBR	5.35	0.00	0.00	79B Henry 536	Henry	536	Paris Board of Public Utilities	4 wells	CRCS	2.41	0.00	0.00
23A Chester 293	Chester	293	Henderson Water Department	5 wells	CRCS	1.02	0.00	0.00	79C Henry 540	Henry	540	North East Henry County UD	3 wells	CRCS	2.5	0.00	0.00
25A Claiborne 296	Claiborne	296	Lincoln Memorial University	1 well	PSLV	0.09	0.00	0.00	79D Henry 568	Henry	568	Puryear Water System	2 wells	TRTR	0.08	0.00	0.00
25B Claiborne 826	Claiborne	826	Clear Fork Utility District	1 well	PSLV	0.09	0.00	0.00	81A Hickman 66	Hickman	66	Boon Aquas-Lyxes UD	Midland Spring, Mill Creek	MSSP	0.45	0.00	0.00
33A Crockett 148	Crockett	148	Crockett Mills Utility District	2 wells	TRTR	0.08	0.00	0.00	83A Houston 698	Houston	698	Tennessee Ridge Water System	wells, Erin Water Treatment Plant, Spring, Cumberland River	MSSP	1.1	0.01	0.00
33B Crockett 248	Crockett	248	Friendship Water Company	2 wells	TRTR	0.08	0.00	0.00	83B Houston 230	Houston	230	Erin Water Department	2 wells	MSSP	21	54.0	0.00
33C Crockett 441	Crockett	441	Many City Water Department	2 wells	TRTR	0.08	0.00	0.00	85A Humphreys 430	Humphreys	430	McEwen Water Department	2 wells	MSSP	24	0.00	0.00
33D Crockett 5	Crockett	5	Alamo Water Department	4 wells	TRTR	0.32	0.00	0.00	85B Humphreys 733	Humphreys	733	Waverly Water System	wells, Duck River	MSSP	0.4	0.55	0.00
33E Crockett 44	Crockett	44	County Wide Utility District	7 wells	TRTR	1.13	0.00	0.00	89A Jefferson 746	Jefferson	746	White Pine Water System	2 wells	CMBR	0.30	0.00	0.00
33E Crockett 6	Crockett	6	Public Utility District	well	TRTR	2.0	0.00	0.00	89B Jefferson 329	Jefferson	329	Jefferson UD	2 wells	CMBR	0.29	0.00	0.00
33E Crockett 45	Crockett	45	Bells Public Utility District	well	TRTR	2.0	0.00	0.00	89C Jefferson 328	Jefferson	328	Dundridge Water Department	3 wells (wells)	CMBR	2.34	0.00	0.00
33E Crockett 196	Crockett	196	Deaton Water System	1 well	ODVC	0.08	0.00	0.00	91A Johnson 485	Johnson	485	Jefferson City Water and Sewer Commission	Jefferson City Water and Sewer Commission	MSSP	2.34	0.00	0.00
41A DeKalb 483	DeKalb	483	Dowelltown-Liberty UD	2 wells	ODVC	0.08	0.00	0.00	91A Johnson 479	Johnson	479	Cold Springs Utility District	Leeco Spring, Rambo Spring, Silver Lake Spring, Silver Lake	CMBR	10	1.45	0.00
45A Dickson 285	Dickson	285	Harpert Utility District	1 well	MSSP	0.19	0.00	0.00	91A Johnson 450	Johnson	450	Mountain City Water Department	well, unimproved tributary	CMBR	0.4	1.01	0.00
43B Dickson 724	Dickson	724	Vanleer Water System	springs	MSSP	0.19	0.00	0.00	91B Johnson 85	Johnson	85	Cadoverville Utility District	Fowler Springs, Grassy Branch Spring, Beaver Creek, Melton Hill Reservoir, Tennessee River	CMBR	1.06	4.65	0.00
43C Dickson 191	Dickson	191	Dickson Water Department	spring, City Lake, West Piney River, Turnball UD	MSSP	0.4	1.84	2.5	93A Knox 280	Knox	280	Halfside-Powell UD	2 wells	CMBR	1.06	4.65	0.00
45A Dyer 212	Dyer	212	Dyersburg Sub. Con. UD	3 wells	TRTR	4.5	0.00	0.00	95A Lake 579	Lake	579	Ridgely Water System	2 wells	TRTR	0.29	0.00	0.00
45A Dyer 211	Dyer	211	Dyersburg Water Department	3 wells	TRTR	4.12	0.00	0.00	95B Lake 700	Lake	700	Tippenville Water System	3 wells	TRTR	0.79	0.00	0.00
45B Dyer 496	Dyer	496	Newbern Water Department	3 wells	TRTR	3.64	0.00	0.00	95C Lake 575	Lake	575	Redfoot Utility District	2 wells	TRTR	0.19	0.00	0.00
45C Dyer 711	Dyer	711	Trenton Water System	3 wells	TRTR	1.2	0.00	0.00	97A Lauderdale 245	Lauderdale	245	Cold Creek Correctional Facility	3 wells	TRTR	0.44	0.00	0.00
45D Dyer 518	Dyer	518	Northwest Dyerburg UD	wells	TRTR	3.1	0.00	0.00	97B Lauderdale 295	Lauderdale	295	Reynolds Water Department	well	TRTR	1.66	0.00	0.00
47A Fayette 254	Fayette	254	Galloway Water Department	3 wells	TRTR	2.3	0.00	0.00	97C Lauderdale 380	Lauderdale	380	Ripley Water System	5 wells	TRTR	1.52	0.00	0.00
47B Fayette 521	Fayette	521	Oakland Water Department	3 wells	TRTR	2.3	0.00	0.00	97D Lauderdale 581	Lauderdale	581	Lauderdale County Water System	4 wells	TRTR	0.7	0.00	0.00
47C Fayette 977	Fayette	977	Knoxville Water System	2 wells	TRTR	0.10	0.00	0.00	97E Lauderdale 255	Lauderdale	255	Gates Water Department	2 wells	TRTR	0.05	0.00	0.00
47D Fayette 477	Fayette	477	Moscow Water System	well	TRTR	1.0	0.00	0.00	97F Lauderdale 279	Lauderdale	279	Halls Water System	3 wells	TRTR	0.68	0.00	0.00
47E Fayette 641	Fayette	641	Somersville Water System	5 wells	TRTR	0.65	0.00	0.00	99A Lawrence 604	Lawrence	604	St. Joseph Water System	spring	MSSP	1.6	0.00	0.00
47F Fayette 382	Fayette	382	LaGrange Water System	3 wells	TRTR	0.09	0.00	0.00	99B Lawrence 408	Lawrence	408	Loretto Water Department	Salt Hole Spring	MSSP	0.27	0.00	0.00
51A Franklin 232	Franklin	232	East Springs Water Department	spring	MSSP	0.47	0.00	0.00	99C Lawrence 399	Lawrence	399	Locoma Utility District	well	MSSP	1.5	2.29	0.00
51A Franklin 101	Franklin	101	Center Grove-Winchester Springs District #1	Creek Spring	MSSP	0.39	0.00	0.00	99D Lawrence 392	Lawrence	392	Lawrenceburg Water System	spring, Shoal Creek	MSSP	1.3	0.00	0.00
51B Franklin 317	Franklin	317	Huntland Water System	2 wells	MSSP	1.2	0.00	0.00	99E Lawrence 676	Lawrence	676	Summertown Water System	well	MSSP	1.18	0.00	0.00
51C Franklin 46	Franklin	46	Belvidere Rural Utility District	well	MSSP	0.15	0.00	0.00	101A Lewis 304	Lewis	304	Hohenwald Water System	3 wells	MSSP	1.18	0.00	0.00
51D Franklin 187	Franklin	187	Decherd Water Works	2 wells	MSSP	0.34	0.00	0.00	101B Lewis 678	Lewis	678	The Farm WS	2 wells	MSSP	0.2	0.00	0.00
51E Franklin 146	Franklin	146	Crown Board of Public Utilities	wells	MSSP	1.8	0.00	0.00	103A Lincoln 242	Lincoln	242	Fayetteville Water System	Teal Hollow Spring, Elk River	MSSP	5.9	2.30	0.00
53A Gibson 67	Gibson	67	Bradford Water System	well	TRTR	1.6	0.00	0.00	103B Lincoln 764	Lincoln	764	Lincoln County BPU #1	wells	MSSP	1.42	0.19	0.00
53B Gibson 599	Gibson	599	Rutherford Water System	TRTR	1.3	0.00	0.00	105A Loudon 397	Loudon	397	Dixie Le Utility District	Fayetteville WS, Allen Pike Spring, Lenoir City UB, FUD Ken Co.	CMBR	0.70	0.00	0.00	
53C Gibson 299	Gibson	299	Dyer Water Department	3 wells	TRTR	1.3	0.00	0.00	105B Loudon 409	Loudon	409	Loudon Utilities Board	Roberson Spring, Tennessee River, Piney Spring	CMBR	0.2	6.06	0.00
53D Gibson 709	Gibson	709	Gibson County Man. WD #1	Chick's Chapel well	TRTR	10	0.00	0.00	105C Loudon 410	Loudon	410	Piney Spring	CMBR	0.29	0.00	0.00	
53D Gibson 788	Gibson	788	Gibson County Man. WD #2	Concord well	TRTR	10	0.00	0.00	107A McMinn 24	McMinn	24	Adams Utilities Board	Inglebrook Spring, New Spring, Gwynnbrook Creek	CMBR	1.12	1.12	0.00
53D Gibson 812	Gibson	812	Gibson County Man. WD #3	Elmer Central well	TRTR	12											